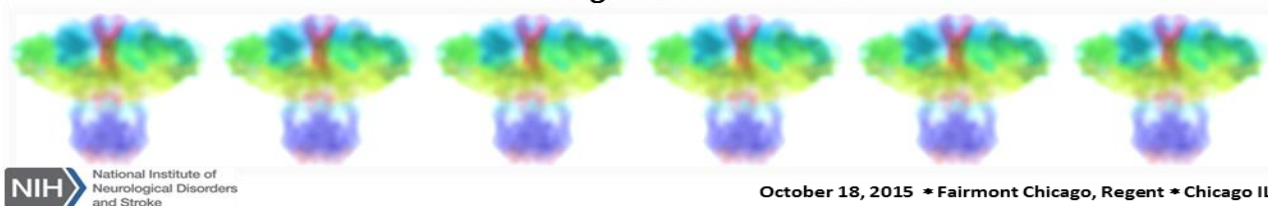


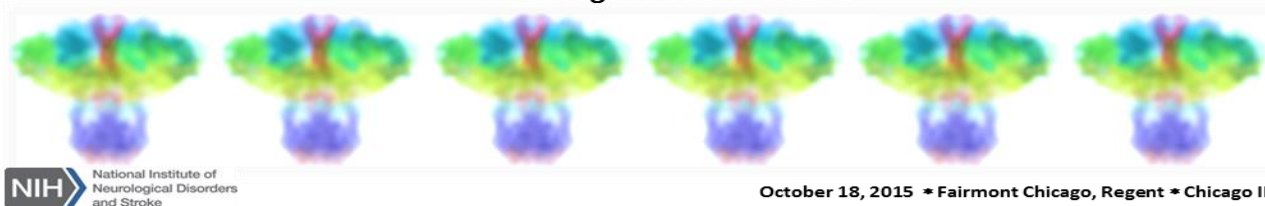
How Can Understanding Protein Structure Help us Unravel the Mysteries of
Neurodegenerative Disease?



AGENDA
October 18th, 2015

- 6:30-6:40 p.m. Welcoming Remarks**
Walter Koroshetz, M.D.
Director of the National Institute of Neurological Disorders and Stroke
- 6:40-7:15 p.m. Super-resolution optical microscopy of mutant Huntingtin**
W.E. Moerner, Ph.D.
Harry S. Mosher Professor in Chemistry, Stanford University, Nobel Laureate in Chemistry 2014
- 7:15-7:35 p.m. Opportunities in cryoEM and cryoET in cell and molecular biology**
Wah Chiu, Ph.D.
Professor, Department of Biochemistry and Molecular Biology, Baylor College of Medicine
- 7:35-7:55 p.m. Architecture of the synaptotagmin-SNARE machinery for calcium triggered exocytosis of synaptic vesicles**
Dr. Axel Brunger, Ph.D.
Professor of Molecular and Cellular Physiology, Stanford University
- 7:55-8:15 p.m. Cryo EM structure of IP3 receptor**
Dr. Irina Serysheva, Ph.D.
Associate Professor Department of Biochemistry and Molecular Biology, UT Health Medical School, the University of Texas
- 8:15-8:35 p.m. EPR of protein aggregates**
Dr. Ralf Langen, Ph.D.
Professor, Department of Biochemistry and Molecular Biology University of Southern California
- 8:35-10:00 p.m. Poster Presentations and Reception**

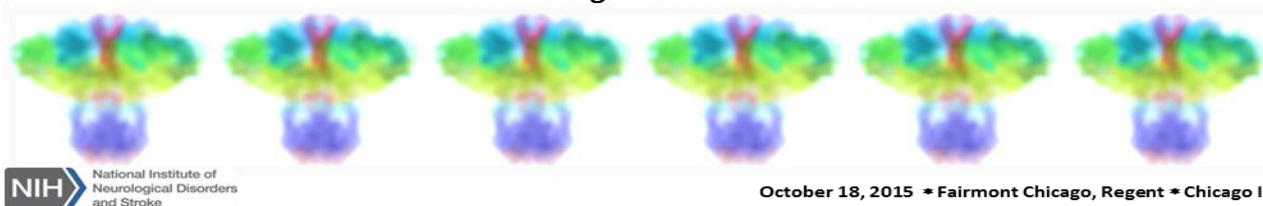
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POSTER PRESENTATIONS

- 1. Familial PD mutations raise the susceptibility to prion-like aggregation by destabilization of the α -synuclein native tetramer.***
Tim Bartels*, John Sanderson, Nora Kim, Erica Grignaschi, Ulf Dettmer. Ann Romney Center for Neurologic Diseases, Brigham and Women's Hospital and Harvard Medical School, Boston, MA.
- 2. Pathological tau induces inflammasome activation and neuroinflammation relevant to Alzheimer's disease***
Kiran Bhaskar*¹, Shanya Jiang¹, Jessica Binder¹, Walter Duran¹, Crina Floruta², Stephen Jett³, and Eicke Latz⁴. ¹Department of Molecular Genetics and Microbiology, University of New Mexico; ²Department of Neurosciences, University of New Mexico; ³Health Sciences Center Electron Microscopy Facility, University of New Mexico; ⁴Division of Infectious Diseases and Immunology, University of Massachusetts Medical School.
- 3. Developing novel α -synuclein binding peptides to identify, monitor, and inhibit α -synuclein fibril formation.***
Anthony R. Braun*¹, Daniel R. Woldring, Benjamin Hackel, and Michael K. Lee^{1,2}. ¹Department of Neuroscience, ²Center for Neurodegenerative Disease, Institute for Translational Neuroscience, University of Minnesota, Minneapolis MN.
- 4. The 2.2-angstrom resolution crystal structure of the carboxy-terminal region of ataxin-3.***
Meewhi Kim*^{1,3}, Vladimir A. Zhemkov^{1,2}, Anna A. Kulminskaya^{1,2}, and Ilya B. Bezprozvanny^{1,3}. ¹Laboratory of Molecular Neurodegeneration, St Petersburg State Polytechnical University, Polytechnicheskaya, 29, St. Petersburg, 195251, Russian Federation, ²Laboratory of Enzymology, National Research Center «Kurchatov Institute», B.P. Konstantinov Petersburg Nuclear Physics Institute, Orlova roscha, Gatchina, 188300, Russian Federation, ³Physiology, University of Texas Southwestern Medical Center, Dallas, TX.
- 5. Misfolding and self-assembly of full-size amyloid beta proteins.***
Yuri L. Lyubchenko*, Mohtadin Hashemi, Yuliang Zhang, and Zhengjian Lv. Department of Pharmaceutical Sciences, University of Nebraska Medical Center, Omaha, NE.
- 6. Small angle neutron scattering reveals the assembly of alpha-synuclein in lipid membranes.***

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Hugh O'Neill* and Divina Anunciado. Biology and Soft Matter Division, Oak Ridge National Laboratory, Oak Ridge, TN.

7. *Studying alpha-synuclein structures using semisynthetic proteins*

E. James Petersson*, Department of Chemistry, University of Pennsylvania, Philadelphia, PA.

8. *Structure of the toxic core of alpha synuclein fibrils.*

Smriti Sangwan*¹, Jose A. Rodriguez¹, Magdalena I. Ivanova¹, Michael R. Sawaya¹, Duilio Cascio¹, Francis E. Reyes², Dan Shi², Elizabeth L. Guenther¹, Lisa M. Johnson¹, Meng Zhang¹, Lin Jiang¹, Mark A. Arbing¹, Brent L. Nannenga², Johan Hattne², Julian Whitelegge³, Aaron S. Brewster⁴, Marc Messerschmidt⁵, Sebastien Boutet⁵, Nicholas K. Sauter⁴, Tamir Gonen², and David S. Eisenberg¹. ¹Howard Hughes Medical Institute, UCLA-DOE Institute, Departments of Biological Chemistry and Chemistry and Biochemistry, UCLA, Los Angeles, CA, ²Howard Hughes Medical Institute, Janelia Research Campus, 19700 Helix Drive, Ashburn, VA, ³NPI-Semel Institute, 760 Westwood Plaza, UCLA, Los Angeles, CA, ⁴Physical Biosciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA, ⁵Linac Coherent Light Source, SLAC National Accelerator Laboratory, Menlo Park, CA.

9. *Linking the conformational landscape of Huntingtin species with neuronal toxicity reveals a requirement of the polyQ-flanking regions for proteostasis in Huntington's Disease.*

Koning Shen*¹, Barbara Calamini², Jonathan Fauerbach¹, Boxue Ma³, Don Lo², Wah Chiu³, and Judith Frydman¹. ¹Department of Biology, Stanford University; ²Department of Neurobiology, Duke University; ³Department of Biochemistry and Molecular Biology, Baylor College of Medicine.

10. *Biophysical-basis for alpha-synuclein induced perturbations to membrane shape and mechanics.*

Jonathan Sachs*. Department of Biomedical Engineering, University of Minnesota, Minneapolis MN.

11. *Structure-function analyses of the E3 ubiquitin ligase parkin*

Wolfdieter Springer*, Fabienne C. Fiesel, and Thomas R. Caulfield. Department of Neuroscience, Mayo Clinic, Jacksonville, FL.

12. *A membrane proximal helix in the cytosolic domain of the human APP interacting protein SorLA/LR11 deforms liposomes*

Fang Tian*, Richard L. Gill, Jr., and Xingsheng Wang. Department of Biochemistry and Molecular Biology, College of Medicine, Pennsylvania State University, Hershey, PA.